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**It's All About Passion** by Steven A. Gonzalez

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Antonio Stradivari, creator of the great Stradivarius violin, is widely regarded as one of the world's master craftsmen. Nearly 300 years after his death the village of Cremona in Italy where Stradivari lived and worked is still imbued with his spirit. Violinmakers from all over the world continue to visit there to pay homage to his genius.

I learned of this, ironically, at a management conference four years ago. We were shown a video about a present day American violinmaker who had made his own pilgrimage to Cremona. To visit the home of the greatest of all violinmakers, he believed, was the best possible way to experience "true passion" for his craft.

I mention this story because it signified a turning point in my life. I had been with NASA for nine years when I attended the conference and saw this video. It occurred to me afterwards that I too longed to feel passionate about my work again.

At the start of my NASA career I had no shortage of passion. I believed I was at the center of the most amazing technological advances in science. The Command and Control Center at the Johnson Space Center—could there be a more exciting and glamorous assignment for a young engineer who'd spent his boyhood fascinated by space travel and the Apollo missions?

NASA was an amazing place then, brimming with excitement and passion, teeming with people who believed there was no end to where their creative energies could take them. But something changed in me over those nine years. I cannot put my finger on a single event, but I no longer felt the passion that I once did.

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When I returned home from the conference, I stewed about my feeling for a couple of weeks. I told my wife I've got to turn things around. I said I would give myself a year, and if nothing changed I was going to leave NASA. I was too young and had too much energy to allow my spirit to languish in a place I no longer felt passionate about.

Looking around me, I saw a different NASA than the place I had come to nine years ago. NASA was not immune to the effects of government downsizing,

and the team that worked in the development of the Mission Control Center (MCC) had been reduced dramatically. As the emphasis for privatization and consolidated government contracts grew, we were struggling to understand what was happening at NASA. To many of us, it seemed like we no longer had the technical skills to validate that what the contractors were telling us was true. We were relying on their expertise. What was our future? Did we even have a future at NASA? Rather than rocket scientists, I felt we were more rocket contract managers.

Weeks passed and I agonized over what to do. Engineers know how to talk about projects and budgets, but when the subject turns to how we feel, well, passion isn't the kind of word you hear used around NASA very often. Every time I considered approaching a colleague, I worried I would be seen as a complainer, or worse, laughed at. Finally I sent an email to the other 19 members of the team and asked point blank, "Do you still feel passionate about your work?"

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I dreaded opening my email after that, but it turned out to be better than I ever could have hoped. The response was an overwhelming expression of solidarity. Yes, let's talk about it, everyone said. And so we did.

At our first meeting we shared with each other why we had come to NASA, the dreams we had when we walked through the door our first day however many years ago that might be. Our reasons for being here were universal. Everyone believed we'd be on Mars by now, or we'd be colonizing the moon. The farthest reaches of the galaxy would forever be expanding as long as we had the imagination to see a way there. It was tremendously empowering for everyone, and for me it was an affirmation of everything I believed I still could feel.

All of us wanted to try and recapture that sense of excitement we once had. We began by asking each other to define his or her own vision. We put these on a white board and attempted to synthesize them into one unified, collective vision that could work for us all.

We decided to go beyond the near term, so the vision we plotted had to take us beyond the next decade, beyond the next two decades even. We selected the

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year 2076 as a target date, the tercentenary, a date that symbolized another watershed in our nation's coming of age, one that was so far in the future that it could continue to fuel our dreams for the rest of our careers.

Do we sound crazy? Like kids? Perhaps we were, but not one of the adults on our team doubted our seriousness or believed we lacked the resolve to go the distance.

Next, we identified everyone's role in bringing the vision to life. In essence, what we hoped to accomplish was no less than a complete paradigm shift in NASA's current operations strategy for exploring space. Presently we send small teams into space with a large support team on the ground. By 2076 we believed

we could put large numbers of people in space and take Command and Control with them. Our mission, as we saw it, was to come up with a plan to achieve the infrastructure and technology that would make this vision a reality.

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Once we knew what we wanted to accomplish, the vision began to take shape as a lab, the Qualification and Utilization for Electronics Systems Technology (QUEST) lab. The symbolism of the word QUEST was important. It signified that we were striving to go beyond what we were doing, what we could do, beyond the Space Station, beyond inhabiting Mars, all the way to whatever new technologies could emerge by the year 2076.

The bitter reality of it all was that there was no money for this. We went to management and explained our vision, and they said it sounds great but we've got Station and Shuttle challenges, and right now we can't fund this. The reality, and we were not naive about it, was that we were also still expected to be full-time contract managers.

This did not deter us or force us to scale back our vision in any way. We reckoned we just had to find alternative sources of funding. We determined the best way to do this was by seeking partnerships with private industry. We knew we had an attractive offer to make to industry. By presenting them with a chance to be in NASA's Mission Control Center, we knew they had a strong incentive for taking us seriously.

It worked. Before we knew it, companies like CISCO, Xitech, Silicon Graphics and Sun wanted to partner with us. In short order we obtained over a million dollars worth of equipment in technology transfer agreements. Suddenly, our team was working with the latest and best technology, and suddenly it was like being a young starry-eyed engineer again, pushing the envelope, learning new things and getting core competencies back.

Four years have passed since I sent out that email. As you can see, I didn't leave NASA. QUEST has provided me, as well as many of my colleagues, with an outlet for our dreams and creativity. We take seriously the vision we have plotted and are working together to make it a reality. Those readers who feel an affinity with the struggles our group has undergone, ask yourselves where are you right

now regarding your own passion for your work? Perhaps it's on you to take the risk and find others in your office or Center who will join you in your quest. If you do choose to go this road, and there is no question it is the road less traveled, just make sure the vision you forge with your colleagues is a democratic one, that it embraces everyone's vision. I wish you the best on your journey.

## LESSONS LEARNED

1. Visionary leaders are willing to take the initiative to render a dream into reality.
2. Once you identify where you are regarding your passion for your work, take risks in finding others who will join you on your own QUEST.
3. In this era of scarce resources, effective partnerships can take you a long way.

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